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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,641

01/25/2007

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F-8559

8956

28107 7590 09/22/2010
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EXAMINER

JOYCE, WILLIAM C

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

09/22/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,641	Applicant(s) TSUZAKI, YUICHI	
	Examiner William C. Joyce	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed June 28, 2010 for the above identified patent application.

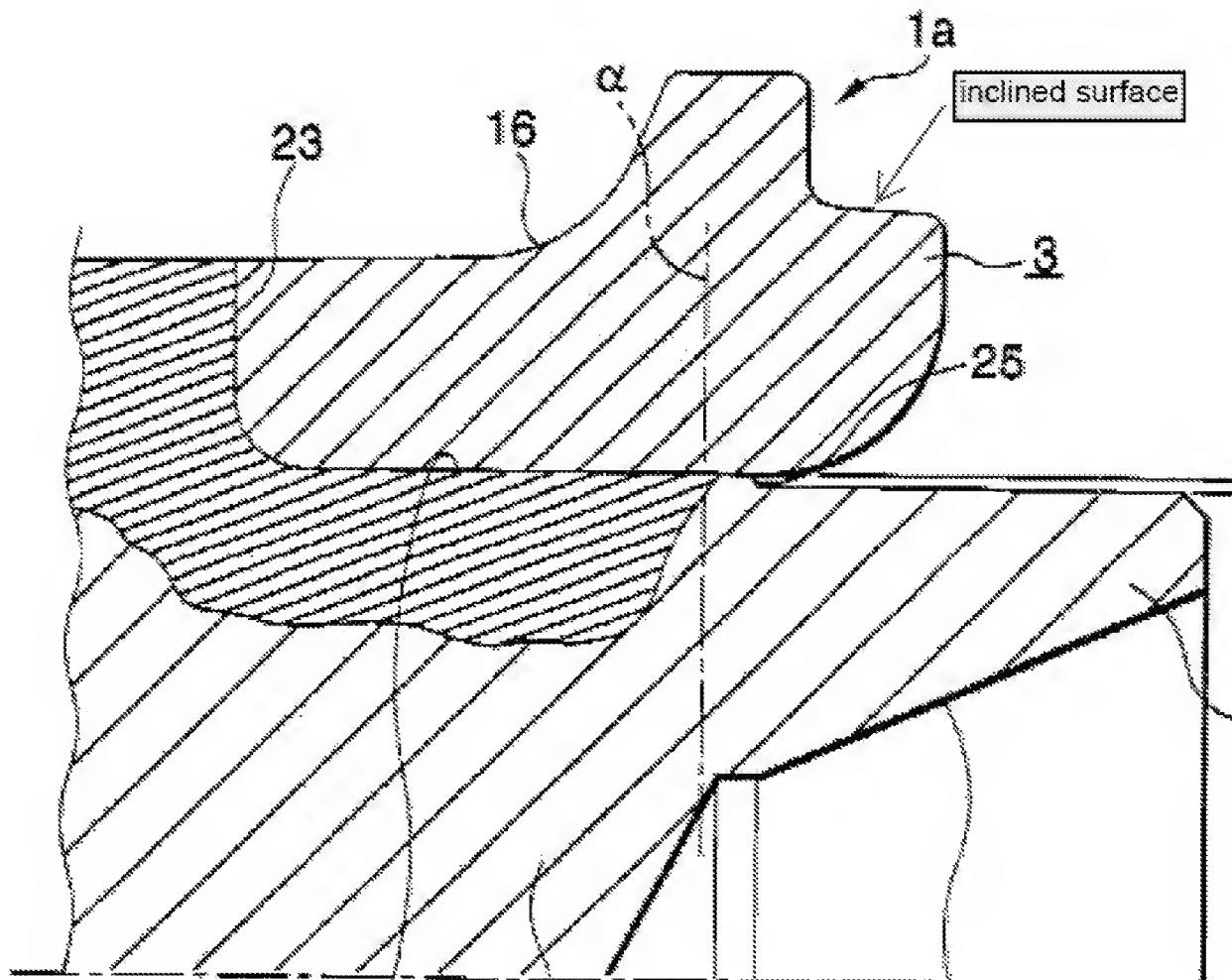
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (USP 6,478,471) in view of Johnson et al. (USP 6,622,377).

Ishida et al. illustrates a rolling bearing unit comprising: an outer ring; an inner shaft (2b) disposed radially inward of said outer ring, said inner shaft including an outer peripheral surface and a first axial end surface; said inner shaft including an inner ring fitting part (8) disposed on said outer peripheral surface adjacent to said first axial end surface of said inner shaft; an inner ring (3) connected to said inner ring fitting part, said inner ring including first and second axial end surfaces; said first end surface of said inner shaft being crimped (9) onto said end surface of said inner ring; wherein: said inner ring includes a shoulder and a step portion disposed axially between said shoulder and said first end surface of said inner ring; and said step portion including an inclined surface shape (see figure below), said inclined surface including a diameter, said diameter expanding towards said second axial end surface of said inner ring.



Ishida et al. does not illustrate a binding jig configured to engage the inclined surface. The prior art to Johnson et al. teaches a biding jig (56) having a chamfered surface for engaging a corresponding chamfered surface of as inner bearing ring (20). In column 4, lines 5+, Johnson et al. discloses "the featured outer surface 70 of the bearing member 20 and the featured outer surface 80 of the tool 56 have a mated geometry consisting of a chamfer, a blend or any combination of mated surfaces which result in a radial force between the outer surfaces 70 and 80 during the deformation

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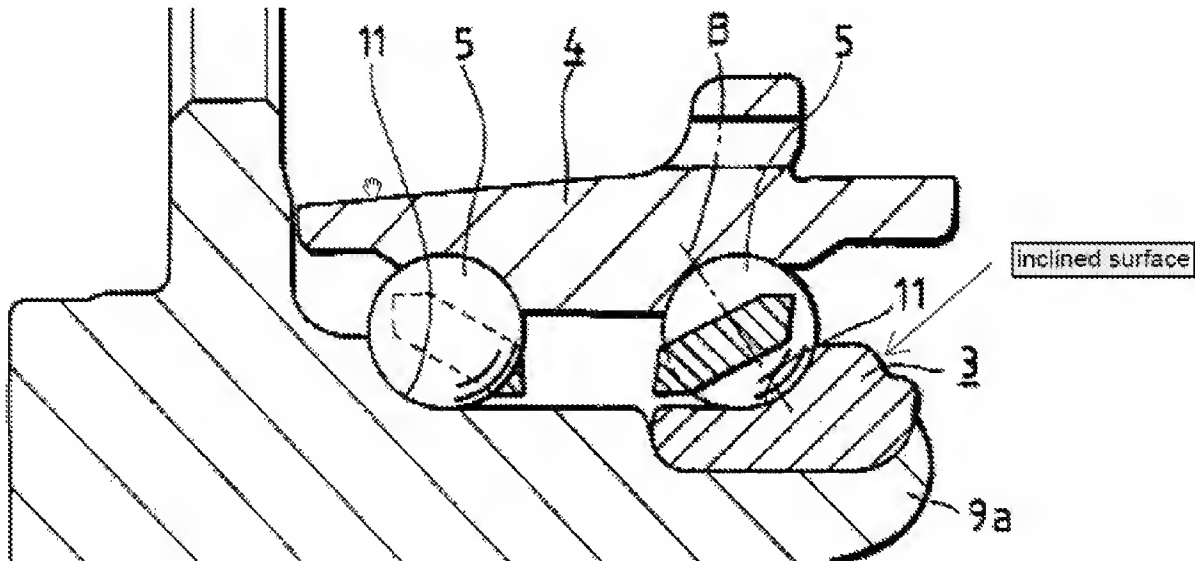
process of the spindle 12" and "the radial force created between the outer surfaces 70 and 80 during the forming process of spindle 20 must be sufficient to counter the deformation forces on the inner first bearing member 20 during the forming of the spindle 12 to prevent excessive deflections that are retained in the finished assembly and associated degradation of the inner first bearing member 20." It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bearing arrangement of Ishida et al. with a binding tool having a chamfered surface for engaging the chamfered surface of the inner bearing ring, as taught by Johnson et al., motivation being to support the inner bearing ring during the forming of the crimped portion.

3. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawai et al. (USP 6,113,279) in view of Johnson et al. (USP 6,622,377).

Sawai et al. illustrates a rolling bearing unit comprising: an outer ring (4); an inner shaft disposed radially inward of said outer ring, said inner shaft including an outer peripheral surface and a first axial end surface; said inner shaft including an inner ring fitting part (7) disposed on said outer peripheral surface adjacent to said first axial end surface of said inner shaft; an inner ring (18) connected to said inner ring fitting part, said inner ring including first and second axial end surfaces; said first end surface of said inner shaft being crimped (9a) onto said end surface of said inner ring; wherein: said inner ring includes a shoulder and a step portion disposed axially between said

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shoulder and said first end surface of said inner ring; and said step portion including an inclined surface shape (see figure below), said inclined surface including a diameter, said diameter expanding towards said second axial end surface of said inner ring.



Sawai et al. does not illustrate a binding jig configured to engage the inclined surface. The prior art to Johnson et al. teaches a binding jig (56) having a chamfered surface for engaging a corresponding chamfered surface of an inner bearing ring (20). In column 4, lines 5+, Johnson et al. discloses "the featured outer surface 70 of the bearing member 20 and the featured outer surface 80 of the tool 56 have a mated geometry consisting of a chamfer, a blend or any combination of mated surfaces which result in a radial force between the outer surfaces 70 and 80 during the deformation process of the spindle 12" and "the radial force created between the outer surfaces 70

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and 80 during the forming process of spindle 20 must be sufficient to counter the deformation forces on the inner first bearing member 20 during the forming of the spindle 12 to prevent excessive deflections that are retained in the finished assembly and associated degradation of the inner first bearing member 20.” It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bearing arrangement of Sawai et al. with a binding tool having a chamfered surface for engaging the chamfered surface of the inner bearing ring, as taught by Johnson et al., motivation being to support the inner bearing ring during the forming of the crimped portion.

Response to Arguments

4. Applicant's arguments with respect to claims 7-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William C. Joyce/
Primary Examiner, Art Unit 3656